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ABSTRACT

This study focuses on identifying factors that contribute to variation in maternal childrearing practices. Of particular interest were parenting practices related to cognitive outcomes during infancy and the early childhood period. It was hypothesized that parenting behavior is multiply determined and that three of the determinants are childrearing beliefs, social support, and infant temperament. Socioeconomic status, a factor consistently linked to differences in parenting style, was included as a determining variable. Childrearing beliefs were assessed in four domains: beliefs regarding "spoiling" the child, beliefs regarding floor freedom, beliefs regarding discipline and control, and beliefs regarding verbal stimulation. A total of 65 mother-infant dyads, residing in Tompkins County, New York, participated in the study. Infants ranged in age from 9 through 23 months; mean age was 15 months. Data were collected with the Home Observation for Measurement of the Environment (HOME), the Parental Beliefs Survey, a social support interview, the Infant Characteristics Questionnaire, and questions soliciting background information. Findings were consistent with the notion that maternal behavior is multiply determined. Childrearing beliefs and social support proved to be strong predictors of maternal childrearing practices, as assessed with the HOME inventory. Findings were also consistent with the hypothesis that childrearing beliefs and social support mediate the relation between socioeconomic status and childrearing practices. (RH)

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INFLUENCES ON MATERNAL BEHAVIOR:

CHILDREARING BELIEFS, SOCIAL SUPPORT AND INFANT TEMPERAMENT

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The fact that parents differ in their childrearing practices is not disputed, and it is widely accepted that these differences in parenting practices are related to child outcomes, although social scientists argue among themselves about the strength of this relation. Many questions remain, however, about factors that contribute to variations in parenting behavior. As Belsky, Robins and Gamble (1984) write:

> Surprisingly little attention has been devoted to ascertaining the determinants of competent parenting. In fact, with the exception of studies of social class differences in parenting behavior (e.g., Hess and Shipman, 1965; Lewis and Wilson, 1972), and the effect of the child on the caregiver (e.g., Lewis and Rosenblum, 1974), relatively few investigations have attempted to account for why parents parent the way they do.

The purpose of this study is to shed light on the question: how do we explain differences in maternal childrearing practices?

The maternal behaviors of interest are behaviors that have linked to cognitive outcomes in children. A myriad of infant studies have identified maternal behaviors that are related to valued outcomes during infancy and the early childhood period. Maternal behaviors that have been linked to favorable cognitive outcomes include: 1) providing attentive, affectionate and responsive care; 2) allowing the child floor freedom, that is, freedom to explore the home environment; 3) providing verbal stimulation for the infant; 4) judicious use of verbal and physical prohibitions, and 5) arranging the physical environment so that it is safe and stimulating; this includes providing playthings that are suited to the infant's developmental stage (Belsky, Lerner and Spanier, 1984).

Although one could generate a lengthy list of factors that may contribute to variations in these practices, a decision was made to focus on three particularly promising variables: 1) childrearing beliefs, 2) social support and 3) perceived temperament of the child. In addition, socioeconomic status, a factor consistently linked to differences in parenting style (Gecas, 1979), was included in the conceptual model guiding this research. (See Figure 1 for the conceptual model)

Figure 1

No doubt the vast majority of parents love their children and want what is best for them, but parents differ in what they believe is best for their children (Kohn, 1977), and also differ in their knowledge of child development (Stevens, 1984; Epstein, 1980). These differences in values and knowledge have been linked to parenting practices. Given the fact that parents have

differing values and levels of knowledge, it seems likely that parents also have differing ideas regarding what are effective and appropriate childrearing practices. In this study, childrearing beliefs were assessed in four domains: 1) beliefs regarding "spoiling" the child; 2) beliefs regarding floor freedom; 3) beliefs regarding discipline and control, and 4) beliefs regarding verbal stimulation. The following hypotheses were tested:

1) Mothers who believe they can spoil their babies by being responsive and/or affectionate provide less supportive care for their infants than other mothers.

2) Mothers who believe that floor freedom is related to valued outcomes provide higher quality care than mothers who do not share that view.

3) Mothers who emphasize the importance of controlling and punishing their infants' aversive behavior provide less intellectually supportive environments than mothers who place less emphasis on controlling their infants' behavior.

4) Mothers who believe that it is important to talk to their infants early, often and contingently provide a more intellectually supportive environment than mothers who are less concerned about providing their infants with verbal stimulation.

In recent years researchers have begun to focus on the influence of social networks on parenting practices. The available evidence, though limited in quantity, is consistent, indicating that mothers with infants who receive considerable emotional and instrumental support from family and friends function more effectively in the parenting role than mothers who receive lesser amounts of support (Crockenberg, 1981; Crnic et al., 1983). In accordance with these findings, it was hypothesized that:

5) Level of social support is positively related to the quality of the rearing environment mothers provide for their infants.

6) In addition, it was hypothesized that childrearing beliefs and social support mediate the relation between socioeconomic status and childrearing practices.

The final factor in the model is perceived temperament of the child. Studies examining the relation between infant temperament and parenting practices have yielded inconsistent results. Some studies have concluded that difficult infants elicit less supportive care than easier peers (e.g., Milliones, 1978), while other studies have found no relation between difficult temperament and parenting style (Daniels, Plomin and Greenhalgh, 1984). Bates (1980) suggested that the discrepant results may be due to the fact that the effect of difficult temperament on parenting practices depends upon other family

characteristics. Difficult temperament is most likely to have a deleterious effect on mother-infant relationships in families under stress and/or with few resources. Drawing on the work of Bates, the following hypothesis was formulated:

7) Perceived difficult temperament is negatively related to the quality of care provided by the mothers if the mothers have few resources (i.e., little education or low income) or little social support.

Thus this study was undertaken with the premise that maternal behavior is multiply determined. The primary influences under consideration in this study are childrearing beliefs, social support and infant temperament. Finally, it was hypothesized that two of these factors, childrearing beliefs and social support, mediate the relation between socioeconomic status and childrearing practices.

METHODS

Subjects

Sixty-five mother infant dyads, residing in Tompkins County, New York, were recruited for this study. The infants ranged in age from 9-23 months with a mean age of 15 months. Fifty-two percent of the infants were male and 43% were first born children.

The mothers ranged in age from 18-39 years, with a mean of 26 years. Most were white (95%), married (83%) and not employed outside the home at the time of the interview (60%).

The families were a heterogeneous group with regard to socioeconomic status. Mothers' education ranged from 9-20 years with a mean of 12.7 years. Forty-five percent of the mothers had 12 years of education. Seventeen percent had less than 12 years and 39% had more than 12 years. Only 12% had a four year college degree. The fathers had similar educational backgrounds, and the correlation between mothers' education and fathers' education was .46. The median family income category for the sample was $11,001-$14,000, with a range from less than $5,000 to more than $35,000.

Most of the mothers were recruited either through the WIC program (43%) or at Well Child Clinics (35%). The remaining mothers (22%) were referred by mothers who had already participated in the study.

Measures

1) Home Observation for Measurement of the Environment (HOME): The dependent variable, maternal behaviors related to cognitive outcomes in children, is operationally defined as a mother's score on Caldwell and Bradley's (1979) HOME inventory. The HOME is an observation/interview instrument developed to assess quantitative and qualitative aspects of the rearing environment. The version used in the present study is the 45 item measure

developed for infants and toddlers. Each of the items is scored "yes" or "no" and all items are weighted equally. A total score for the HOME is determined by counting the number of items scored "yes". Although the inventory is divided into six subscales, only the total score was used for the analyses reported here.

Several studies have demonstrated that the HOME is a strong predictor of various measures of cognitive ability assessed during the early childhood period. Moreover, the HOME is predictive of cognitive outcomes in children when maternal IQ is controlled (Ramey et al., 1984; Gottfried and Gottfried, 1984).

2) Parental Beliefs Survey (PBS): The Parental Beliefs Survey was developed for this study to assess parental beliefs regarding effective and appropriate childrearing practices. The four subscales of the PBS assess beliefs in four domains. A) Beliefs regarding spoiling the child: Subscale A is comprised of 7 items that assess whether or not parents believe they can "spoil" their infants by being responsive to their cries and by being affectionate. Higher scores indicate that the mothers believe babies can be spoiled by responsive and/or affectionate behavior. For this subscale, the reliability coefficient, Cronbach's alpha, is .86. B) Beliefs regarding floor freedom: Subscale B, comprised of six items, assesses the parents' beliefs regarding how much leeway an infant should be given in exploring his/her home environment. Higher scores indicate the mother believes the child should be allowed considerable leeway in exploring the home environment. For this subscale, alpha equals .58. C) Beliefs regarding discipline and control: Subscale C assesses the mothers' beliefs regarding discipline and control. There are four items in this subscale. Mothers with higher scores emphasized the importance of controlling their children's behavior and viewed disciplining the child as a particularly important parenting task. The reliability coefficient for this subscale is .78. D) Beliefs regarding verbal stimulation: Subscale D is concerned with beliefs regarding verbal stimulation. Mothers with higher scores believe in providing infants with verbal stimulation early, often and contingently. Cronbach's alpha for this subscale is .38. In addition to the fact that there are only five items in this subscale, the low reliability coefficient is probably due to the fact that there was not a great deal of variability in the responses given to the items in this subscale. Mothers generally endorsed the idea of spending time talking to their babies even when the babies were very young.

3) Social Support Interview: Level of social support was determined by responses to the following three questions: 1) Now I have some questions for you about some of the people who are important to you. The first question concerns people you can talk to about child care. If you want advice on how to raise (child's name) is there anyone you can talk with? Who could you turn to for ideas and advice? 2) What if you need someone to take care of (child's name) if you are sick or if there is an emergency; is there anyone you could count on, on short notice?

3) We have found that parents seem to have fewer opportunities than nonparents to talk to other adults when they are raising young children. When you are concerned about a personal matter-- for example, about someone you are close to or something you are worried about -- is there someone you can talk to about these matters? Mothers were also asked how they knew the person or people they mentioned in response to each of the questions. For each question, the number of people mentioned and the number of kin and nonkin were recorded. A total support score, used in the analyses reported in this paper, was computed by adding the number of people mentioned in response to all three questions. If the same person was mentioned more than once, that person was only counted once.

4) Infant Characteristics Questionnaire (ICQ): The ICQ was developed by Bates and his colleagues (Bates, Freeland and Lounsbury, 1979) to assess parents' perceptions of their infants' temperament. Measures were developed for 6, 13 and 24 month old infants. The version for 13 month old children was used here. Nine items loading on the "fussy/difficult/demanding" factor were included on a questionnaire. Each item is scored on a seven point scale. The scores for each of the items are added together for a total temperamental difficultness score. A higher score indicates that the child is perceived as being fussy, difficult and demanding.

5) Socioeconomic Status: The background information needed for this study, including information about parents' education, occupational prestige, income, age and family composition was collected with a questionnaire. The questions are fairly standard questions modeled after those used by a national survey organization. Fathers' occupational prestige was assessed with the Hodge/Siegel/Rossi prestige scale (Siegel, 1971).

Procedures

When mothers were recruited, a home interview was arranged for a time when her baby was likely to be at home and awake. About one week before the interview, participants received the questionnaire part of the study in the mail. The packet contained the following instruments: 1) Background Information, 2) Infant Characteristics Questionnaire, and 3) Parental Beliefs Survey. Subjects were asked to complete the questionnaires before the time of the home interview, so that they could be picked up by the person conducting the interview.

The home interview generally lasted about an hour and a half. The HOME inventory was scored first; observation items were scored for one hour. Next, the mother was interviewed about her social support network.

At the end of the interview, the interviewer examined the questionnaires for any items that had not been answered. Mothers were asked to complete any missed items. Finally, any questions the mother had about the study were addressed.

Analysis

Pearson product-moment correlations were used to examine the relations among the various factors in the model (Figure 1). Path analysis was used to assess the extent to which the data were consistent with the model. Standardized betas are presented on path diagrams.

RESULTS

As noted earlier, it was hypothesized that childrearing beliefs, social support and infant temperament are related to the quality of care mothers provide for their infants, as assessed with the HOME. In addition, it was hypothesized that childrearing beliefs and social support mediate the relation between socioeconomic status and childrearing practices.

As shown in Table 1, the four subscales measuring beliefs regarding effective and appropriate childrearing practices are predictive of the quality of care mothers provide for their infants, as assessed with the HOME ($p < .05$). The best predictors of HOME scores are "beliefs regarding spoiling the child" (-.56) and "beliefs regarding verbal stimulation" (.49). Mothers who believe that infants can be "spoiled" by responsive and affectionate care provide less intellectually supportive environments than other mothers. Mothers who emphasize the importance of responding to their infants early, often and contingently provide their infants with a more supportive environment than mothers who place less emphasis on providing their infants with verbal stimulation.

Table 1

Level of support is also related to the quality of care the infants receive. Mothers who have more extensive support networks have higher HOME scores ($r = .39$). Further analyses (not included in Table 1) suggest that availability of emotional support is particularly important for mothers. In addition, the number of nonkin mentioned in the social support interview is more strongly related to HOME scores than the number of kin mentioned. These results should be viewed with caution however. A particular type of support may appear to be relatively unimportant when in fact this is not the case; for example, a low correlation with the outcome measure may be due to the fact that the mothers did not differ much when listing the number of people who provide a certain type of support.

Perceived difficult temperament is unrelated to HOME scores ($r = -.03$). This is the case even when only those with little education, low income or social support are considered (See Table 2). However, a post hoc analysis revealed that infants who are

perceived as being temperamentally difficult receive less supportive care if they are second or later born (r = -.23).

Table 2

Because the independent variables are likely to be related to each other as well as to the outcome measure, multiple regression analysis was used to assess the effect of each of the independent variables on the quality of the rearing environment when the others were controlled. In the first analysis, only the four beliefs measures were used as predictor variables and HOME scores were used as the dependent variable. Together, the four belief subscales account for 39% of the variance in HOME scores. Because all the beliefs measures are correlated with each other (See Table 3), only beliefs regarding spoiling the child and beliefs regarding verbal stimulation are significant predictors of HOME scores in the regression analysis. The standardized betas for the four beliefs subscales are: spoiling (-.40), verbal stimulation (.28), floor freedom (.08) and discipline/control (-.02).

Table 3

When social support is added to the regression equation, the model accounts for 44% of the variance in HOME scores. The effect of social support on the quality of the rearing environment is independent of the effect of childrearing beliefs. In this model, the standardized betas for the significant predictors are: beliefs: spoiling (-.31), beliefs: verbal stimulation (.25), and social support (.25).

Path analysis was used to test the hypothesis that childrearing beliefs and social support mediate the relation between socioeconomic status and the quality of the rearing environment, as assessed with the HOME. As shown in Figure 2, the results of the path analysis are consistent with this hypothesis. With the beliefs measures and social support in the model, the two SES measures, family income and mothers' education are reduced to nonsignificant.[1] This is not to suggest that socioeconomic status is unimportant. To the contrary, socioeconomic status is an important variable in the model, but the effect of socioeconomic status on the quality of the rearing environment is an indirect effect, via childrearing beliefs and

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[1] Fathers' occupational prestige is not predictive of HOME scores when family income and mothers' education are controlled.

social support, rather than a direct effect.

Figure 2

DISCUSSION

This study began with the question: what factors contribute to variation in maternal childrearing practices? Of particular interest were parenting practices related to cognitive outcomes during infancy and the early childhood period. It was hypothesized that parenting behavior is multiply determined and that three of the determinants are childrearing beliefs, social support and infant temperament. The results of the study are consistent with the notion that maternal behavior is multiply determined. Two of the factors examined here, childrearing beliefs and social support, proved to be strong predictors of maternal childrearing practices, as assessed with the HOME inventory.

The mothers in this study clearly had differing beliefs about what parenting practices were best for their children. The childrearing beliefs most strongly related to the quality of care they provided for their infants were beliefs regarding spoiling the child and beliefs regarding verbal stimulation. Mothers who were concerned that being responsive to their infants cries and being too affectionate would lead to a "spoiled" child apparently acted in accordance with these beliefs and appeared to be less involved with their infants. Although nearly all mothers thought it was important to talk to their babies from the earliest days, the mothers differed in how much they emphasized the importance of providing their infants with verbal stimulation and these differences in beliefs were reflected in their parenting styles. Although there was no consensus regarding what childrearing practices are most effective and appropriate, it cannot be emphasized enough that all 65 mothers in the study loved their babies and seem genuinely concerned about doing what was best for them. They simply had differing ideas about how the best outcomes could be achieved.

Availability of social support was also related to the quality of care the mothers provided for their infants. Mothers with more extensive support networks provided their infants with a more intellectually supportive environment than mothers who had less extensive networks. Although most parents would probably agree that availability of social support is important for effective family functioning, an argument can be made that the relation between social support and the quality of the rearing environment is spurious. Mothers who are skillful in their dealings with their children may be skillful in their transactions with other people generally. Parenting skill and availability of support may both be attributable to a third

factor such as a personality characteristic (e.g., nurturance or gregariousness). Although this alternative explanation cannot be ruled out, anecdotal evidence gathered during the social support interviews tends to support the conclusion that availability of social support is causally related to positive parenting practices. Data from intervention programs aimed at enhancing the level of support available to parents should provide us with more definitive answers about whether or not social support is causally related to parenting practices.

The hypothesis that infants who are perceived as being temperamentally difficult receive less supportive care than easier peers, especially in families with few resources, was not supported. Perceived difficultness was not related to the quality of care the mothers provided even when only low SES mothers and mothers with relatively little social support were considered. However, a post hoc analysis revealed an interesting relation between perceived temperament and aspects of the rearing environment when birth order was taken into consideration. For first time mothers, the relation between difficult temperament and HOME scores was positive. First born children who were perceived as being temperamentally difficult received somewhat more supportive care than their peers who were perceived as being relatively easy to care for. The opposite is true for later born children. Mothers of difficult later born children had lower scores on the HOME inventory. One possible explanation for this pattern of results is that first time mothers have more time to care for a difficult child than mothers who have more than one child to nurture. In addition, primiparous mothers may be more inclined than multiparous mothers to blame themselves for a difficult child and may therefore work harder to provide optimal rearing conditions for the difficult child. It will be interesting to see if this finding can be replicated in future studies.

Finally, this study tried to address the question: what is the process by which socioeconomic status exerts it influence on parenting behavior. The data from this study are consistent with the hypothesis that childrearing beliefs and social support mediate the relation between socioeconomic status and childrearing practices. As in previous studies, the zero order correlations between the SES variables (income, education and occupation) and the HOME inventory were positive and significant. However, when childrearing beliefs and social support were incorporated into a path model as mediating variables, the direct effect of SES on the quality of the rearing environment was reduced to nonsignificance. The effect of SES on childrearing practices appears to be indirect, via childrearing beliefs and social support.

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FIGURE 1

CONCEPTUAL MODEL

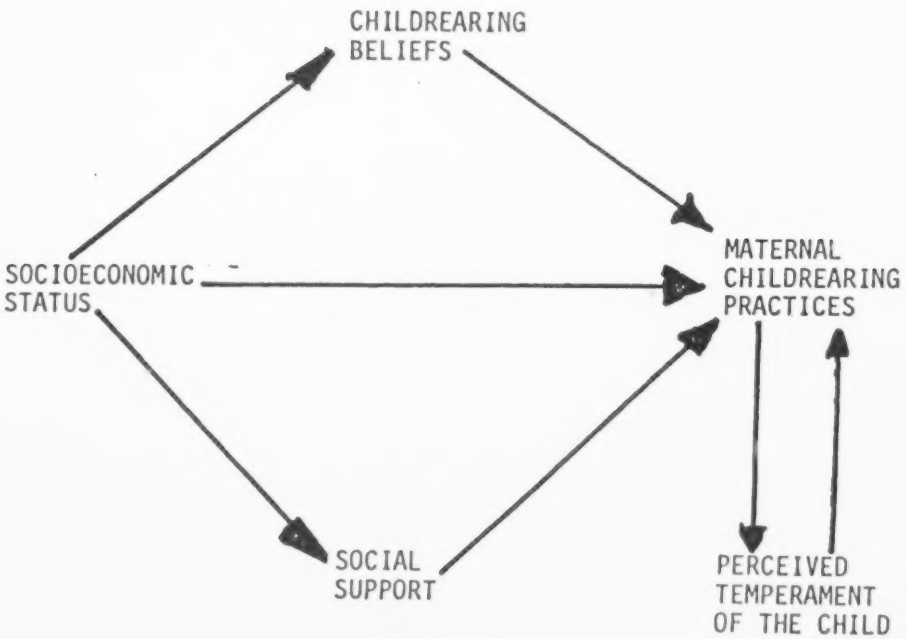


TABLE 1

ZERO-ORDER CORRELATIONS

	MOTHER'S EDUCATION (N=65)	FAMILY INCOME (N=65)	OCC. PRESTIGE (FATHERS) (N=54)	HOME TOTAL (N=65)
HOME	.36*	.38*	.29*	1.0
BELIEFS				
1) SPOILING	-.33*	-.37*	-.09	-.56*
2) FLOOR FREEDOM	.39*	.15	.14	.39*
3) DISCIPLINE/ CONTROL	-.20	-.07	-.04	-.31*
4) VERBAL STIMULATION	.35*	.26*	.26*	.49*
SOCIAL SUPPORT	.41*	.29*	.24*	.39*
DIFFICULT TEMPERAMENT	.08	-.12	.11	-.03

* P < .05

TABLE 2

Correlations: Perceived Temperament and HOME

PERCEIVED TEMPERAMENT**

	Total Sample (N=65)
HOME	-.03

	High School or Less (N=40)	More than High School (N=25)
HOME	-.02	.02

	Income < Mean (N=35)	Income > Mean (N=29)
HOME	-.15	.27

	Social Support < Mean (N=38)	Social Support > Mean (N=27)
HOME	-.04	.02

	Firstborn Children (N=27)	Second or Later Born (N=38)
HOME	.27	-.23

** Higher scores indicate that the child is perceived as being fussy and difficult.

TABLE 3

Correlations Among Child-rearing Beliefs Subscales

(N=65)

	Spoil	Floor Freedom	Discipline/ Control	Verbal Stim.
Spoil	1.0	-.53	.57	-.47
Floor Freedom	-.53	1.0	-.44	.40
Discipline/ Control	.57	-.44	1.0	-.26
Verbal Stimulation	-.47	.40	-.26	1.0

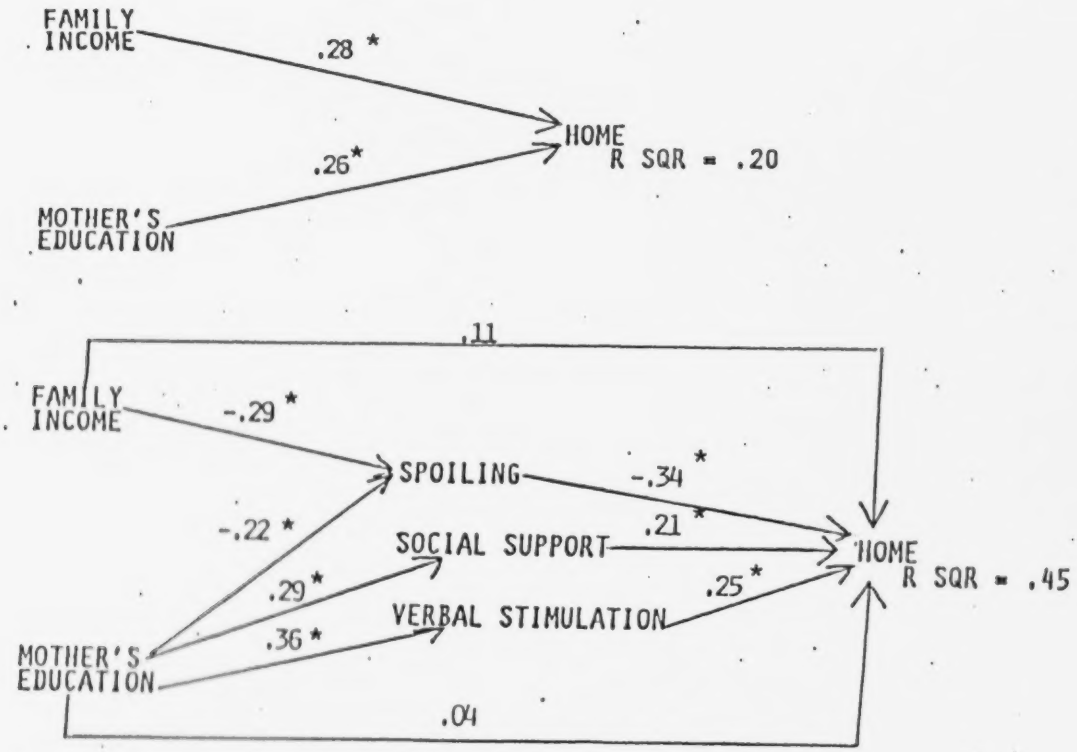
All correlations significant ($p < .05$)

FIGURE 2

PATH MODEL **

(STANDARDIZED BETAS)

(N=65)



* p .05

** NONSIGNIFICANT VARIABLES DELETED